

Durham Research Online

Deposited in DRO:

31 October 2019

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Dohme, Lea-Cathrin and Rankin-Wright, Alexandra J. and Lara-Bercial, Sergio (2019) 'Beyond knowledge transfer : the role of coach developers as motivators for lifelong learning.', *International sport coaching journal.*, 6 (3). pp. 317-328.

Further information on publisher's website:

<https://doi.org/10.1123/iscj.2019-0034>

Publisher's copyright statement:

Accepted author manuscript version reprinted, by permission from Dohme, Lea-Cathrin, Rankin-Wright, Alexandra J. Lara-Bercial, Sergio (2019). Beyond Knowledge Transfer: The Role of Coach Developers as Motivators for Lifelong Learning. *International Sport Coaching Journal* 6(3): 317-328, <https://doi.org/10.1123/iscj.2019-0034>. © 2019 Human Kinetics, Inc.

Additional information:

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

Resubmission 1 of MS# ISCJ.2019-0034

Beyond Knowledge Transfer: The Role of Coach Developers as Motivators for Lifelong Learning

Lea-Cathrin Dohme^{a*}, Alexandra J. Rankin-Wright^b, and Sergio Lara-Bercial^c

^aSchool of Sport and Health Sciences, Cardiff Metropolitan University, Cardiff, Wales, United Kingdom; ^bDepartment of Sport and Exercise Sciences, Durham University, Durham, United Kingdom; ^cSchool of Sport, Leeds Beckett University, Leeds, United Kingdom

Submitted to the International Sport Coaching Journal

July 29, 2019

Accepted August 22, 2019

Abstract

Research investigating coach education and development has grown significantly over the past three decades. Most of these efforts have focused on establishing how coaches learn; yet the actual impact of specific coach education and development interventions has received considerably less attention. Moreover, the role of coach developers in facilitating this impact remains largely unknown. To address this knowledge gap, this study used a realist evaluation approach to engage in a detailed exploration of a large-scale, multi-annual coach education and development intervention with high school coaches in the Philippines. Using interviews and focus groups at two different time points with multiple stakeholders, this study established a series of context, mechanism and outcome configurations that provide a nuanced perspective on how coach education and development works. More specifically, this paper offers a novel interpretation of the role of coach developers as 'motivators for lifelong learning' established through three key mechanisms: 1) being available, approachable, and supportive; 2) creating a sense of belonging; and 3) raising coaches' aspirations by increasing their sense of purpose and duty. Practical guidelines for the education of coach developers, as well as future coach education and development programmes are provided.

Keywords: Coach Education; Coach Development; Realist Evaluation; Critical Realism; Learning

Beyond Knowledge Transfer: The Role of Coach Developers as Motivators for lifelong Learning

Sport participation is a central contributor to individuals' physical and mental well-being.

Approximately 1.1 million coaches provide sporting opportunities to millions of children, adolescents, and adults on a daily basis in the United Kingdom alone (North, 2009). Coaching is thus a fundamental pillar of the sport delivery system that can positively affect societies and individuals alike (European Commission, 2017). Consequently, efforts have been made to professionalise and ensure high quality coaching across all levels of sport participation over the past 25 years, by increasing the amount of research conducted within coach education and development (CED) contexts (McQuade & Nash, 2015).

Much of this research has focussed on how coaches learn, providing detailed insight into the sources and ways of learning coaches value throughout their development (Deek, Werthner, Paquette, & Culver, 2013). Nevertheless, literature exploring the impact of CED opportunities as part of coaches' learning remains scarce (Langan, Blake, & Lonsdale, 2013), resulting in the majority of CED programmes lacking robust examination and being only partially informed by research-generated evidence. As a result, an increase in the scrutiny of CED has been called for in the literature (Douge & Hastie, 1993; Gilbert & Trudel, 1999; Trudel, Gilbert, & Werthner, 2010) and at a policy level (European Commission, 2017; ICCE, ASOIF, & LBU, 2013; Lara-Bercial et al., 2017).

Despite efforts to encourage an increase of research evaluating CED programmes (Gilbert & Trudel, 1999), a review of the literature revealed that only 14 empirical studies published between 1998 and 2007 attempted to evaluate the effectiveness of CED programmes (Trudel et al., 2010). An additional 25 papers evaluating the effectiveness of CED programmes published between 2008 and 2019 were identified as part of the literature reviewed for this study (Table 1). Reviewing all 39 papers is beyond the scope of this article; nevertheless, key inferences can be drawn.

First, the majority of studies focused on evaluating the impact of small-scale CED programmes that were of a short-term nature and educated coaches on specific topics, such as injury prevention or nutrition (Belski et al., 2018; Gianotti, Hume, & Tunstall, 2010). While valuable and informative, the relevance of these findings to federations or higher education CED programmes is unclear, as these commonly constitute of much wider curriculums and longer interactions between coaches and coach educators (CDs).

Second, a broad array of data collection methods have been employed to evaluate CED programmes, including (1) experimental or quasi-experimental designs that collected pre- and post-intervention data mostly through questionnaires (Bowley, Cropley, Neil, Hanton, & Mitchell, 2018); (2) inductive qualitative designs that recorded coaches' experiences through semi-structured interviews (Driska & Gould, 2014); (3) mixed method designs that conducted pre- and post-intervention questionnaires, semi-structured interviews, and, in some cases, field observations (Deek et al., 2013); and (4) case-study designs that focused on CDs' reflections of the programme (Van Hoye et al., 2015). The choice of methodology appeared to affect the type of findings elicited from each study. Specifically, quantitative studies tended to evaluate whether or not change had taken place, yet provided limited insight into the mechanisms that triggered this change. Qualitative studies commonly described the lived experiences of CED programme participants, thus provided insight into the internal functioning of the programmes. In comparison to quantitative and qualitative approaches, mixed method designs appeared to offer the most rounded, nuanced, and multi-layered picture of CED programmes by providing insight into programmes' effectiveness, as well as coaches' experiences and the mechanisms that contributed to the success or failure of the programmes.

Finally, differing variables have been evaluated to judge the impact of CED programmes, including for example coaches' satisfaction with the content and delivery of programmes. Although

collectively these results provide insight into the various mechanisms that contribute to the effectiveness of CED programmes, none of the reviewed studies explored the effects of CDs' personal characteristics on coaches' learning. Yet, various publications, including the International and European Sport Coaching Frameworks (ICCE et al., 2013; Lara-Bercial et al., 2017) and the International Coach Developer Framework (ICCE, ASOIF, & LBU, 2012), highlight the significant impact CDs' personal characteristics can have on CED.

Indeed, CDs' behaviours, knowledge, and practices have been found to leave lasting impressions that can affect coaches' motivation towards lifelong learning in adaptive or maladaptive manners (Deek et al., 2013; Nelson, Cushion, & Potrac, 2011). CDs have been defined as "those trained to develop, support and challenge coaches to go on honing and improving their knowledge and skills in order to provide positive and effective sport experiences for all participants" (ICCE, ASOIF, & LBU, 2012, p.6). This definition, as well as existing empirical research, emphasizes that CDs are not only subject matter experts who transfer knowledge, but individuals who hold an array of different roles, including roles as leaders, facilitators, mentors, assessors, and course designers (Abraham et al., 2013; North, 2010; McQuade & Nash, 2015).

These multiple roles require CDs to be highly self-reflective and understanding of (1) the context in which education takes place; (2) the coaches whom they are working with; (3) child, adolescent, and adult learning theories; (4) coaching curricula; and (5) innovative educational practices (Abraham et al., 2013). Despite the complex and important nature of the many roles played by CDs, research investigating this topic is in its infancy. Considering the importance of CDs in the development and implementation of CED programmes that inspire coaches to meet the ever growing demands placed upon them through a commitment to lifelong learning, a greater understanding of effective CDs needs to be developed.

In summary, the substantial increase in the attention paid to the education and development of coaches has played a fundamental role in enhancing the development and delivery of CED programmes worldwide. Nevertheless, more research is warranted that evaluates the mechanisms that foster the success or failure of large-scale CED programmes. More specifically, research focusing on the characteristics that constitute effective CDs is necessary. Consequently, the present study focusses on the findings referring to the characteristics of effective CDs that were elicited as part of a large-scale evaluation of a tailored CED programme for high school coaches in the Philippines.

Theoretical Framework

The study was underpinned by a Realist Evaluation (RE) approach (Pawson & Tilley, 1997; Pawson, 2013). RE is informed by critical realism (Bahskar, 1998) and strives to look inside the black box of social interventions, to understand not only if a programme works, but more importantly, how it works and why. RE operationalises this approach by prioritising the mechanistic explanation of phenomena using research designs that extract, test, and refine programme theories (Pawson, 2013). Programme theories comprise of context-mechanism-outcome (CMO) configurations that allow researchers to make explicit the objectives of a programme within a specific context(s), as well as the underlying assumptions about how the programme works (i.e., mechanisms). By making CMO configurations explicit, the process of programme design and evaluation becomes more robust, reliable and fruitful. Programme theories also signal areas that require investigation, ensuring the researcher is “looking in the right place” (Pawson & Tilly, 1997, p. 72).

A key tenet of the RE approach is that interventions do not work the same way across all contexts, therefore CMO configurations vary depending on circumstances, time, as well as the response of individuals and broader influences (Pawson, 2013). As a result, researchers commonly

aim to gain general, as well as individualized insights into ‘what worked for whom, in which circumstances, and why?’ (Pawson, 2013, p.29). Describing the concurrent, sequential or even mixed influences that generate outcomes in specific contexts and for specific individuals is challenging. In order to do this, a variety of research methods must be used to identify and explore how outcomes, context and mechanisms come together to produce CMO networks (Lara-Bercial, 2018). The following section describes the methodology employed in this study to operationalise RE in the context of CED.

Methods

Participants

Two Philippine National High Schools for Sport were part of this longitudinal study. In total, 28 high school coaches¹ (9 females and 19 males), ranging in age from 22-56 ($M_{\text{age}} = 38.75$; $SD = 8.36$) and two male school coach coordinators, aged 47 and 42, participated in this study. Coaches' coaching experience ranged from 1-16 years ($M_{\text{years}} = 8$; $SD = 4.56$) in sports such as archery, arnis², athletics, badminton, baseball, basketball, chess, football, gymnastics, tennis, sepak takraw³, softball, swimming, and volleyball. All participants identified as ‘Filipino’.

¹ In the context of this paper, high school coaches are defined as individuals who function as school teachers and coaches. To hold this dual responsibility, high school coaches are expected to have a bachelor's degree in physical education and track record of athletic/sport participation. In reality, however, the vast amount of coaches included in this study held non-sport related degrees and did not possess an accredited coaching qualification.

² Arnis, a form of martial art, is the national sport of the Philippines.

³ Sepak takraw, a form of kick volleyball, is a sport native to Southeast Asia.

Procedure

The Department of Education of the Republic of the Philippines and Get Passionate Productions Corporation, supported by the British Council, commissioned Leeds Beckett University to develop an athlete centred CED programme for the forthcoming Philippine Academy for Sports, entitled Coach Advancement Programme (CAP). The programme was informed by a scoping study⁴ that identified current and sought after programme theories to design, implement, and evaluate a CED programme that met the needs of coaches, athletes, and stakeholders. Ethical approval was obtained from Leeds Beckett University and all participants, or their respective guardians, provided informed consent.

The CED programme consisted of a six-day residential introductory course, a ten-month on-the-job practicum, and a five-day residential consolidation course (see Table 2 for full details). The programme aimed to enhance coaches' capacity to fulfil the six primary functions of the coach as defined by the International Sport Coaching Framework (ICCE, ASOIF, & LBU, 2013), including (1) setting vision and strategy, (2) building relationships, (3) setting the environment, (4) conducting practice and competition, (5) reflecting and learning, and (6) reading and reacting to the field.

The programme was delivered by eight CDs, including two females and six males ($M_{\text{age}} = 41.57$, $SD = 13.74$). Six CDs identified as 'Filipino', representing a cohort of local CDs. One CD identified as 'Spanish' and one as 'German', representing teaching and research staff from Leeds Beckett University. Together, the CDs espoused a constructivist view of learning which revolved around the principles of disjuncture (i.e., the gap between our current knowledge and skills and those

⁴ The scoping study was conducted over a six-month period, one year prior to the implementation of the CAP. A summary of the study is available upon request.

required to solve the current problem; Jarvis, 2006), cognitive dissonance (i.e., having one's personal beliefs challenged by new knowledge; Jarvis 2006), and the processes of assimilation (i.e., the processing of new material to foster learning; Moon, 2004) and accommodation (i.e., the changes in cognitive structure that follows assimilation of new learning material; Moon, 2004).

Data Collection

To develop an in-depth understanding of coaches' experiences, outcomes, and mechanisms of the CED programme, data was collected at two time points (TP1 & TP2) through a mixed method approach, including individual interviews with coaches and coach-coordinators, coach focus groups, athlete focus groups, and perceived competence self-rating questionnaires. Despite the breadth of data collected, this section focusses solely on the methods that provided insight into what constituted effective CDs. Consequently, only individual semi-structured interviews and coach focus groups will be explained in more detail.

Data was first collected after the delivery of the introductory course through semi-structured interviews and focus groups. The interviews and focus groups were conducted by the two UK-based CD's, who identified as a Spanish male, and a German female. Although a limitation of this may have included the potential for socially desirable responses, a key advantage of having the CD's as interviewers and focus group facilitators included the level of rapport already established with participants (Smith & McGannon, 2018). This led to more open conversations, and also enabled to the CD's to probe and ask specific follow-up questions due to their expertise and knowledge of the programme.

Coaches were purposefully sampled to represent the wide range of ages that existed across the sample. Individual semi-structured interviews were conducted with five coaches (three males and two females) ranging in age from 29 to 56 years ($M_{\text{age}}=38$; $SD=9.81$). Interviews lasted between 50 and

130 minutes and contained questions such as: What do you feel have been the benefits of taking part in the CAP?; Can you explain what made learning happen for you?; What worked for you and what did not and why? Similar questions were posed to both school coach coordinators who participated in a joint semi-structured interview lasting 90 minutes. In addition, two focus groups were conducted with six coaches (three males and three females) from each school ranging in age from 29 to 50 years ($M_{\text{age}}=39$; $SD=8.53$). Similar questions as in the individual interviews were posed; yet, as the focus groups allowed all individuals to express their opinions, debate that led to new learning was stimulated (Sparkes & Smith, 2014). The two focus groups lasted 82 and 155 minutes.

The second round of data was collected 12 months later, at the end of the consolidation course. Specifically, twelve individual semi-structured interviews were conducted with seven male and five female coaches who had previously participated in the individual or focus group interviews conducted after the introductory course. Interviews lasted between 34 and 72 minutes and contained the same questions as the previous interviews. The coaches ranged in age from 29 to 56 years ($M_{\text{age}}=41.25$; $SD=8.23$). Individual semi-structured interviews were also conducted with the two male school coach coordinators (age 44 and 47) lasting 85 and 15 minutes.

Data Analysis

To allow for the synthesis and organization of the large data set, thematic analysis was used (Braun & Clarke, 2013). The method was chosen as it offers rich descriptions of the collected data by identifying, analysing, interpreting, and reporting common patterns and themes emerging from the data (Sparkes & Smith, 2014). Following Braun and Clarke's (2013) thematic analysis guidelines, a six-step data analysis process was adhered to, including (1) familiarization with the data, (2) generating initial codes, (3) searching for and identifying themes, (4) reviewing themes, (5) defining and naming themes, and (6) writing the report. More specifically, the interviews and focus groups

were transcribed verbatim. Afterwards, interviews were listened to and transcripts read until full familiarisation with the data was established. The data was then organised into segments encompassing the same or similar information. For each segment a code was assigned. Next, codes were organised into themes and sub-themes in the computer software NVivo 10. Finally, the themes were critically reviewed, defined, and named by the whole research team, as well as critical friends, which enabled the team to continually reflect, defend and clarify the analysis and findings. More information about this process can be found in the “Quality Standards” section below.

Quality Standards

Methods were implemented to ensure the rigor, authenticity, and trustworthiness of the data collection and analysis process. First, to facilitate an in-depth familiarization with the researched context, understand the aims of the CED programme that was to be developed, and establish authentic and trusting relationships with stakeholders, the United Kingdom based CDs travelled to the Philippines twice for five days prior to the development of the CAP (Smith & Sparkes, 2014). Second, the immersive approach before and during the CED programme allowed for sustained dialogue between CDs and all participants, allowing for ‘member reflections’ leading to additional data being collected and other data discussed (Smith & McGannon, 2018). For example, the CD’s exchanged notes after each data collection session to highlight any gaps in the evaluation that needed further exploration. Further conversations with the participants outside of the formal interview and focus group settings also elicited information that was then incorporated into the analysis, as well as enabling clarification on data collected.

Third, the research team was immersed in a vibrant and interdisciplinary research community consisting of academics from various disciplines, which provided opportunities to engage in discussions and reflections about the research process, potential biases, and research findings (Smith

& McGannon, 2018). Finally, the research team met at least once a month during the data analysis process to critically discuss the progress and processes of the data analysis (Smith & McGannon, 2018).

Results and Discussion

The present study was part of a large-scale investigation conducted to design, implement, and evaluate a tailored CED programme for coaches in two Philippine high schools. The combined findings of the various data sources provided substantive evidence of the positive outcomes the participation in the CED programme had for school coaches⁵. In particular, coaches reported having developed a holistic vision of athletes' development that was now fostered throughout both schools. Furthermore, they felt capable of planning research informed coaching sessions; establishing and maintaining positive relationships with their athletes and colleagues; providing game-based, differentiated and individualized training sessions; and conveying a democratic rather than authoritarian leadership style.

Nevertheless, from a realist evaluation perspective, it is not enough to determine the impact of an intervention (i.e., outcomes); instead, it is important to identify what generative mechanisms brought the outcomes about (Pawson, 2013). The current study identified a plethora of mechanisms that played a significant part in enhancing coaches' learning during and after the CED programme. Many of these mechanisms had previously been identified in CED research, such as the applied and blended nature of the programme (Cushion et al., 2010) or the utilisation of previous knowledge and experiences as departure points (Stodter & Cushion, 2016). However, to the best of our knowledge, previous research has to date paid limited attention to the impact of *CDs' demeanour and personal*

⁵ Insight into the full evaluation of the CAP will be provided in a forthcoming paper.

248 *behaviours as mediators of coaches' commitment to CED programmes and motivators for lifelong*
249 *learning.* Given the relative strength of this mechanism identified in this particular case, the
250 remainder of this paper will focus solely on this important yet scarcely researched element of the
251 CED jigsaw.

252 The results section is therefore framed using the themes emanating from the data that describe
253 this mechanism, including (1) *being available, approachable, and supportive*; (2) *creating a sense of*
254 *belonging*; and (3) *raising coaches' aspirations by increasing their sense of purpose and duty*. Each
255 theme is presented and discussed below, and quotes used to illustrate participants' experiences.
256 Pseudonyms are used throughout the results to ensure participants' anonymity.

257 **Being Available, Approachable, and Supportive**

258 School coaches and coach coordinators frequently described the CAP's CDs as available,
259 approachable, and supportive. This was surprising to participants as in their previous experiences
260 "they [CDs] talk and after you can't find them... so we can't clarify things" (Coach 1, TP1). In
261 contrast, the CAP CDs were described as "on hand" (Coach 13, TP1) and "physically available"
262 (Coach 17, TP2) "[so that] we can interact with you every time we have difficulties in our activities...
263 Even though you [may be] doing things [busy], we know we can approach you any time" (Coach 1,
264 TP1). This was perceived to "improve our learning, as you are always roaming around, supporting us,
265 and observing what we are doing... That is the reason we learnt a lot." (Coach 7, TP2). This on
266 demand and non-judgemental support from the CDs was highly valued by the coaches, because "as a
267 beginner coach, I need ongoing support... I am glad you are here so we can ask questions" (Focus
268 Group 2, TP1). In addition, the supportive and approachable nature of the CDs was reported to have
269 created a safe learning environment in which coaches were not afraid to ask questions:

We used to be very hesitant to ask questions because if they [CDs] do not like your question, they are just [dismissive or judgemental], but you have created this safe environment for me. ... Here we are not ashamed to ask questions, that is why we are very thankful. (Coach Coordinator, School 1, TP1)

Here we have the time and strength [confidence], to ask questions, to clarify things. We can understand and relate to you cos you are nice to us. There is learning because we always dare to react to you. Have you noticed that every time we do not understand something, we raise our hands and ask, or we give some situations [example]? ... This is very important for us because if we can ask questions, if we can clarify things, we can learn. (Coach 1, TP2)

Finally, school coaches and coach coordinators appreciated that CDs' availability was not limited to the face-to-face aspects of the CED programme. Instead, CDs provided regular site-visits and were available through email, a Facebook group that functioned as a discussion forum, conference Skype calls, and online webinars provided on topics coaches requested: "Staying in touch throughout [the year] was very good, because I want communication to be constant. ... Every time we see some problems and can't solve it in our group we need [can rely on] your advice" (Coach 8, TP2).

This finding suggests that CDs' availability, approachability and supportive nature was fundamental for the success of the CED programme. More specifically, coaches valued the authentic and friendly relationship established between CDs and themselves, reportedly fostering balanced power relations. This and the established rapport enhanced coaches' confidence to openly ask question and get actively involved in the programme without fearing embarrassment. Underpinning the feelings experienced by the coaches, was perhaps the constructivist view of learning that was adapted by all CDs. It also intentionally guided the development and implementation of the

programme. Taking on this view allowed CDs to feel comfortable offering coaches opportunities to input and shape the programme, yet also challenge their beliefs (i.e., cognitive dissonance; Jarvis, 2006) and allow time for the assimilation and accommodation of new knowledge (Moon, 2004).

The need to establish supportive environments to enhance learners' commitment and motivation to training programmes, has previously been outlined in the youth sport coaching literature (e.g., Fraser-Thomas, Côté, & Deakin, 2005; Gould & Carson, 2008). In particular, coaches have been encouraged to (a) empower athletes through decision making and problem solving opportunities; (b) offer positive reinforcement; (c) focus on athletes' strengths and interests; (d) refrain from judgemental comments; (e) model positive behaviours such as empathy, patience, and warmth; (f) show interest in athletes' lives beyond the sport context; and (g) acknowledge athletes' perspectives and values to foster positive coach-athlete relationships (Côté, Bruner, Erickson, Strachan, & Fraser-Thomas, 2010; Falcão, Bloom, & Bennie, 2017; Pierce, Kendellen, Camiré, & Gould, 2018). In light of the current findings, it appears that the same principles apply to CD-coach relationships. Yet, to our knowledge, only North (2010) has outlined that some coaches valued a somewhat personal relationship with their CDs over a solely professional and instrumental one, recognising that there is more to coach learning and development than coaching qualifications. Indeed, some coaches in this and North's (2010) study reported feeling isolated, with limited opportunities to discuss their coaching problems with 'friends' who possessed a good understanding of the underlying issues involved, and who could thus function as nonthreatening and supportive sounding boards. This process can also facilitate CDs understanding of the culture and context in which CED takes place, enhancing their ability to provide appropriate support. Together, this suggests that it may be fundamental for CDs to not only possess subject matter expertise, but also

315 soft skills such as empathy and flexibility that enable them to interact effectively with CED
316 programme attendees.

317 **Mediating a Sense of Belonging**

318 Interview and focus group data revealed that CAP participants perceived CDs as individuals
319 mediating a strong sense of belonging between themselves, the CED programme, and the larger
320 community of coaches and teachers. More specifically, participants reported working in isolation
321 prior to the CAP: “We were strangers to each other, but now we are always sharing [ideas], like a
322 family” (Coach 9, TP2). Coaches felt that CDs’ personal demeanour and learner-centred educational
323 approach had encouraged and taught them to work collaboratively:

324 You showed us how to be a family. We did many group tasks and open discussions,
325 played games together, ate together, laughed together. We spent a lot of time together.
326 Your tasks and passion made us go back to our rooms after a [CAP] sessions and we
327 would discuss and brainstorm together. We brought that attitude back to our schools...
328 that we always try to ask each other “Is this good, what about this one?” ... [We] have a
329 great time discussing and sharing ideas now. We never used to do that before the
330 training [CAP], but you taught us that we can learn from each other, cos we all have
331 talents in our own ways. (Coach 4, TP2)

332 This newly developed sense of belonging enhanced coaches’ desire to learn and exchange ideas with
333 one another:

334 The level of camaraderie is much more now. Sometimes we keep on laughing in the
335 faculty room, but before we would never speak. Now we exchange ideas, ask questions
336 about how to improve. ... This is thanks to you; you brought us together like this.
337 (Coach 2, TP2)

338 In addition, encouraging coaches to exchange ideas across different sports during the CAP appeared
339 to have made coaches “more open-minded... [For instance,] even though this is not your sport I now
340 believe you can give me some ideas or suggestions to make my coaching more effective” (Coach 9,
341 TP2). Coach 10 (TP1) explained that this open-mindedness did not exist prior to the CAP:

342 During the first meeting [CAP introductory course] we would often only talk with
343 coaches from the same sport, but you showed us that coaches from other sports can also
344 be helpful and I can be helpful to them, even if I don't play their sport. Now we talk
345 with all, like some coaches in soccer and coaches in volleyball.

346 Finally, Coach 9 (TP2) provided one of the most significant expressions of the positive effect the
347 newly developed sense of belonging had:

348 [When we question each other] now our words are not painful. We are helping each
349 other to improve, to achieve our goals. So we are not bonded now [just] because we are
350 under the sports programme, but we are bonded now because we are a family. Every
351 week we have a little reunion. We will spend the night here [at the school] to have a
352 coaching clinic and bond more. Then early in the morning we will train, applying the
353 learnt lessons. We are now a community, a solid family.

354 This finding suggests that, in addition to authentic relationships between CDs and CED
355 programme attendees, a strong emotional connection between coaches themselves can also enhance
356 their commitment to and learning beyond the duration of the CED programme. More importantly,
357 the data indicates that CDs can play a significant role in mediating a sense of belonging which can
358 facilitate a strong learning culture characterised by ongoing learning opportunities, empowerment,
359 collaboration, and personal growth (Marsick & Watkins, 2003).

A theory that could explain coaches' increased motivation to learn and develop collaboratively during and beyond the CAP is Deci and Ryan's (2000) self-determination theory. The theory suggests that individuals' motivation can be enhanced when feelings of relatedness, competence, and autonomy are satisfied. Relatedness specifically has been defined as a "desire to feel connected to others - to love and care, and to be loved and cared for" (Deci & Ryan, 2000, p. 231); a feeling that according to coaches within this study was absent from their coaching contexts prior to the CAP. The positive effects of elevated feelings of relatedness have consistently been highlighted in literature exploring coach-athlete relationships (e.g., Choi, Cho, & Huh, 2013; Mageau & Vallerand, 2003) and team cohesion (e.g., Blanchard, Amiot, Perreault, Vallerand, & Provencher, 2009; Hook & Newland, 2018); still, it appears that this concept has not yet been explored in relation to coach learning and development. The value of social learning, especially the notion of Communities of Practice (Lave & Wenger, 1991), has however been consistently reported in the CED literature (Bertram, Culver & Gilbert, 2017). The link between the notion of Communities of Practice and the development of a strong sense of belonging as a tool to enhance the effectiveness of CED warrants further research.

Nevertheless, the current findings suggest that CDs fostering belongingness, which ultimately enhanced feelings of competence and autonomy, have the potential to develop a coaching workforce that collaborates with and facilitates each other's learning beyond the termination of formal CED programmes.

Raising Coaches' Aspirations by Increasing Their Sense of Purpose and Duty

While motivated to do well for their athletes, coaches of both schools displayed high levels of negativity towards their working environments prior to the CAP. These feelings were triggered by a lack of appropriate coaching resources and facilities, as well as a consistent undermining of their dual

383 role by other members of staff. Despite this, CDs were able to raise coaches' individual and
384 collective aspiration by enhancing their sense of purpose and duty in two ways. First, CDs inspired
385 coaches to become the best coaches they can be, not only for their own sake, but to benefit their
386 athletes, colleagues, schools, and other coaches. For instance, coaches reported realising that their
387 responsibility towards athletes was much bigger than just helping them to improve their athletic
388 performances. Coach 1 (TP2) explained:

389 Before we started this programme, being an effective coach had another meaning for
390 me, it meant having a winning streak. Now I realised that being an effective coach isn't
391 about how many wins you have, but what your athletes learn from you that they can use
392 for their entire life, especially being disciplined and independent. ... So the way I am
393 with my players now is not like before. Before, I kept shouting. Maybe for them I
394 looked like a monster, but now my players look at me like a father. I can say that
395 because during the graduation, two of my players kept on crying on my shoulder, saying
396 "Thank you so much, you've changed me". That's the thing that makes me cry and so
397 proud. You made me open minded and now I let them [the athletes] be part of me.

398 This increased sense of responsibility was noticeable throughout the whole cohort of coaches, who
399 now frequently referred to themselves as "guidance counsellors" (Coach 10, TP2) or second parents:

400 I have learnt how to handle the students, not only in terms of their physical skills, but
401 also as a holistic, whole person. I can now teach them how to handle emotions, how to
402 handle the stress. So I learnt how to take good care of them, not just being a coach, but
403 also a second mother to them. (Coach 3, T2)

404 Some coaches also felt motivated to pass their knowledge on to colleagues who did not have the
405 opportunity to be part of the CAP or were new to the programme. Coach 11 (TP2) explained: "I have

406 this bigger responsibility now, not just for me or my athletes, but also to my co-coaches and
407 colleagues at the school”. Likewise, Coach 4 (TP2) reported that it was important “to share my
408 knowledge with the newbies and coaches who did not do the CAP, pass it [the knowledge] down the
409 family tree.”

410 Second, CDs helped coaches realise that they were capable of designing coaching programmes
411 that suited them, their athletes, and their school facilities:

412 You didn’t give us a sample programme to implement into our school, because you
413 really wanted us to make our own. You told us that we are the coaches and we are the
414 ones who know our athletes best. So there is no perfect programme that you can give
415 us... We had to make our own coaching curriculum and you taught us how to go about
416 it, the steps, but [ultimately] we are the ones who make the plan, who have to organise
417 it, and I now know we can [do this]. (Coach 4, TP2)

418 You said “try to think about it in your own setup, not on what you see, what you hear,
419 what is the ideal, but try to think of it in your own setup”, because we have different
420 situations, our logistics will be different, the availability of some of the facilities. So you
421 really helped us to push our brains on how to approach the different tasks that you gave
422 us in our own setups. (Coach 14, TP1)

423 Coaches reported feeling empowered by this enhanced sense of duty and motivated to drive their
424 learning further:

425 In this programme you are emphasising not only [that we should] keep [on] learning,
426 and you do not just give us your ideas, but you are training us to become creative and
427 resourceful... You are making us independent coaches, not only dependent on the ideas

or the knowledge that you have given to us, but we need to make our own way of how we can learn. (Coach 1, TP1)

This finding suggests that CDs can raise coaches' aspirations by explicitly outlining the positive impact they can have on the holistic development and well-being of athletes and others involved in their development. Research supporting the notion that coaching behaviours can positively affect athletes' self-perceptions, adherence to sport, and psychosocial development has been around for over 50 years (Smith & Smoll, 2002; Smith, Smoll, & Curtis, 1979). Additionally, it appears universally accepted that athletes' positive development needs to be triggered through appropriate training patterns and social influences (Côté, Baker, & Abernethy, 2007; Côté & Vierimaa, 2014). Nevertheless, it cannot be assumed that coaches in all contexts possess this knowledge, wherefore it may be necessary that CDs clearly communicate this information to foster an enhanced sense of purpose and duty in coaches of all ages and developmental stages.

Indeed, researchers investigating the characteristics of successful coaches have consistently identified that strong feelings of purpose and duty are key drivers of coaches' accomplishments as well as their commitment to lifelong learning (Kellet, 1999; Lara-Bercial & Mallett, 2016; Vallée & Bloom, 2005, 2016). For instance, Lara-Bercial and Mallett (2016) identified that serial winning coaches were characterised by 'driven benevolence', a "purposeful and determined pursuit of excellence based on an enduring and balanced desire to considerately support oneself and others" (p. 33). In particular, this desire was underpinned by an enduring sense of responsibility for athletes, coaching programmes, and even countries; allowing coaches to overcome setbacks and self-doubt more readily as they were driven by a higher, self-less purpose. Focussing more specifically on intercollegiate and high school coaches, Miller and Carpenter (2009) also reported that coaches frequently exposed high levels of altruism (i.e., a motivational state that aims to increase other's well-

being), motivating them to support their athletes professionally and personally. Together, these findings thus support the notion that increased levels of purpose and duty can enhance coaches' motivation for personal continuous improvement, as well as supporting others to fulfil their potential.

In summary, the present paper is among the first to focus solely on the personal characteristics of effective CDs; thus extending our understanding of CDs' roles and responsibilities. Specifically, the study provides a novel interpretation of the role of CDs as 'mediators of coaches' commitment to CED programmes and motivators for lifelong learning'. As alluded to in the methods section, a key tenant of the realist evaluation approach is that interventions do not work the same way across all contexts, wherefore it is important to outline the specific CMO-configurations that explain the successful collaboration between the CDs and coaches of this study before concluding this paper (Pawson, 2013).

In relation to the context, it has to be stressed that coaches who participated in the CAP felt 'starved' of knowledge due to the perceived low quality and limited amount of CED opportunities available to them. Regardless of their coaching experience, coaches attending the CAP were characterised by limited amounts of knowledge regarding coaching theories and sport science subjects. By their own admission, their coaching was mostly informed by their experience as athletes, which in many cases was also limited. Within the context of this group of coaches, three mechanisms were associated with the role of the CD as a motivator for learning: 1) being available, approachable and supportive; 2) creating a sense of belonging; and 3) raising coaches' aspirations by increasing their sense of purpose and duty. Together, these mechanisms fostered coaches' motivation to commit to the CED programme and become learners who implemented and shared their newly gained understanding of coaching to benefit their athletes, colleagues, schools, other coaches, and wider community (i.e., outcome).

474 **Practical Implications**

475 Despite these findings being context specific, suggestions for the education and development of
476 CDs and future CED programmes can be proposed. First, the current findings support the notion that
477 CDs are not only subject matter experts, but individuals holding an array of roles, including leaders,
478 facilitators, mentors, assessors, and course designers (Abraham et al., 2013; North, 2010; McQuade &
479 Nash, 2015). The current findings also extend our understanding of CDs' roles by suggesting that
480 they also function as motivators for lifelong learning, inspiring coaches to go on honing and
481 improving their knowledge and skills even after the termination of formal CED. To have this effect, it
482 appears important that CDs possess so called soft skills, such as empathy, enthusiasm,
483 approachability, and authenticity, which have the potential to foster genuine rapport between CDs and
484 CED programme attendees. As a result, it is suggested that one professional developmental need of
485 CDs may be to evaluate the degree to which they possess or need to develop soft skills that allow
486 them to form meaningful, authentic, and supportive relationships with CED programme attendees.

487 Second, CDs should aim to mediate a sense of belonging by establishing positive and lasting
488 relationships between CED programme attendees. This is suggested to foster independence and
489 collaboration that has the potential to create a community that works together and facilitates each
490 other's learning independent from formal CED opportunities (Bertram et al., 2017). Consequently,
491 CDs should be taught and aim to foster team cohesion, as well as a culture in which coaches supports
492 each other's learning during (e.g., through frequent collaborative tasks), outside (e.g., through
493 extracurricular activities such as group dinners), and after (e.g., by encouraging coaches to hold
494 regular coaches' meetings) formal CED sessions and programmes.

495 Finally, CDs should make every effort to increase coaches' sense of purpose and duty by
496 communicating explicitly that coaches play a fundamental role in the holistic development of human

beings, ultimately affecting their well-being, competence, and development of life skills. This could be achieved by drawing on literature focussing on and providing examples of youth athletes' positive development (e.g., Côté et al., 2010; Fraser-Thomas et al., 2005).

Strengths and Limitations

Although the present study offered some practical results, strengths and limitations need to be considered. A primary strength of this study was the use of a realist evaluation approach that allowed for an in-depth evaluation of a large-scale, tailored, and longitudinal CED programme. The use of realist evaluation 'forced' the researchers to look beyond the outcomes of the CED programme and focus on the mechanisms that made the programme effective, providing novel insight into the characteristics of effective CDs. Nevertheless, this research approach also carried its limitations. A realist evaluation design is lengthy and messy and, in particular, the development of clear-cut CMO-configurations presented a challenge as mechanisms and outcomes are interconnected. In addition, the study was carried out with participants who were very receptive to change and grateful for this development opportunity. In addition, their cultural background made coaches susceptible towards forming strong, family-like social bonds. The same might not be the case in other contexts or cultures. Finally, despite the longitudinal nature of the study, no follow-up has been conducted that investigated the longevity of the effects CD's behaviours, knowledge, and practices had on coaches' motivation towards lifelong learning.

Conclusion and Future Research

The present study was part of a large-scale investigation conducted to design, implement, and evaluate a tailored CED programme for coaches in two Philippine high schools. The study focussed specifically on the mechanisms that constituted effective coach development, providing a novel interpretation of the role of CDs as 'motivators for lifelong learning'. In particular, three mechanisms

520 where identified that enabled CDs to inspire and bring coaches together, including 1) being available,
521 approachable and supportive; 2) creating a sense of belonging; and 3) raising coaches' aspirations by
522 increasing their sense of purpose and duty. Overall, the findings support the notion that CDs can
523 leave lasting impressions affecting coaches' motivation towards learning and exploring new coaching
524 practices. As a result, practical guidelines for the education of CDs, as well as future CED
525 programmes have been proposed in the hope to further enhance the professionalization of the
526 coaching workforce. Future research is needed to explore the validity of the provided guidelines. For
527 example, research should explore the role of CDs in fostering coaches' feelings of relatedness and its
528 effects upon their willingness to engage in continued, collaborative learning, as well as the need to
529 possess or develop soft skills for CDs to effectively collaborate with coaches. Finally and more
530 generally, more research is warranted that evaluates the mechanisms that foster the success or failure
531 of large-scale CED programmes.

532

References

- Abraham, A., Morgan, G., North, J., Muir, B., Duffy, P., Allison, W., & Hodgson, R. (2013). Task analysis of coach developers: Applications to the FA youth coach educator role. *In Proceedings of the 11th International Conference on Naturalistic Decision Making (NDM 2013)* (pp. 21-24).
- Belski, R., Donaldson, A., Staley, K., Skiadopoulos, A., Randle, E., O'Halloran, P., ... & Nicholson, M. (2018). Brief education intervention increases nutrition knowledge and confidence of coaches of junior Australian football teams. *International Journal of Sport Nutrition & Exercise Metabolism*, 28, 259-265. doi:10.1123/ijsnem.2017-0170
- Bertram, R., Culver, D.M., & Gilbert, W. (2017). A university sport coach community of practice: Using a value creation framework to explore learning and social interactions. *International Journal of Sport Science & Coaching*, 12, 287-302. doi:10.1177/1747954117710503
- Bhaskar, R. (1998). Philosophy and scientific realism. In M. Archer, R. Bhaskar, A. Collier, T. Lawson, & A. Norrie (Eds.), *Critical realism: Essential readings* (pp. 16-47). New York: Routledge.
- Blanchard, C. M., Amiot, C. E., Perreault, S., Vallerand, R. J., & Provencher, P. (2009). Cohesiveness, coach's interpersonal style and psychological needs: Their effects on self-determination and athletes' subjective well-being. *Psychology of Sport & Exercise*, 10, 545-551. doi:10.1016/j.psychsport.2009.02.005
- Bowley, C., Cropley, B., Neil, R., Hanton, S., & Mitchell, I. (2018). A life skills development programme for youth football coaches: Programme development and preliminary evaluation. *Sport & Exercise Psychology Review*, 14, 3-22.
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. London: Sage.

- 556 Camiré, M., Kendellen, K., Rathwell, S., & Felber Charbonneau, E. (2018). Evaluation of the
557 pilot implementation of the Coaching for Life Skills program. *International Sport Coaching Journal*,
558 5, 227-236. doi:10.1123/iscj.2018-0006
- 559 Choi, H., Cho, S., & Huh, J. (2013). The association between the perceived coach-athlete
560 relationship and athletes' basic psychological needs. *Social Behavior & Personality: an international*
561 *journal*, 41, 1547-1556. doi:10.2224/sbp.2013.41.9.1547
- 562 Côté, J., Baker, J., & Abernethy, B. (2007). Practice and play in the development of sport
563 expertise. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (3rd ed., pp. 184-
564 202). New York: Wiley.
- 565 Côté, J., Bruner, M., Erickson, K., Strachan, L., & Fraser-Thomas, J. (2010). Athlete
566 development and coaching. In J. Lyle & C. Cushion (Eds.), *Sport coaching: Professionalism and*
567 *practice* (pp. 63-84). Oxford: Elsevier.
- 568 Côté, J., & Vierimaa, M. (2014). The developmental model of sport participation: 15 years
569 after its first conceptualization. *Science & Sports*, 29, 63-69. doi:10.1016/j.scispo.2014.08.133
- 570 Cushion, C.J., Nelson, L., Armour, K.M., Kyle, J., Jones, R.L. & O'Callaghan, C. (2010).
571 *Coach Learning and Development: A Review of Literature*. Leeds: sports coach UK.
- 572 Deek, D., Werthner, P., Paquette, K. J., & Culver, D. (2013). Impact of a large-scale coach
573 education program from a lifelong-learning perspective. *Journal of Coaching Education*, 6, 23-42.
574 doi:10.1123/jce.6.1.23
- 575 Douge, B., & Hastie, P. (1993). Coach effectiveness. *Sport Science Review*, 2, 14-29.
- 576 Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and
577 the self-determination of behaviour. *Psychological Inquiry*, 11, 227-268.
578 doi:10.1207/S15327965PLI1104_01

Deek, D., Werthner, P., Paquette, K. J., & Culver, D. (2013). Impact of a large-scale coach education program from a lifelong-learning perspective. *Journal of Coaching Education*, 6, 23-42. doi:10.1123/jce.6.1.23

Driska, A. (2018). A formative, utilization-focused evaluation of USA swimming's nationwide online coach education program. *International Sport Coaching Journal*, 5, 261-272. doi:10.1123/iscj.2017-0096

Driska, A. P., & Gould, D. R. (2014). Evaluating a problem-based group learning strategy for online, graduate-level coach education. *Kinesiology Review*, 3, 227-234. doi:10.1123/kr.2014-0061

European Commission (2017). *EU Work Plan for Sport 2017-2020*. Brussels: European Commission.

Falcão, W. R., Bloom, G. A., & Bennie, A. (2017). Coaches' experiences learning and applying the content of a humanistic coaching workshop in youth sport settings. *International Sport Coaching Journal*, 4, 279-290. doi:10.1123/iscj.2017-0027

Falcão, W. R., Bloom, G. A., & Gilbert, W. D. (2012). Coaches' perceptions of a coach training program designed to promote youth developmental outcomes. *Journal of Applied Sport Psychology*, 24, 429-444. doi:10.1080/10413200.2012.692452

Ferrar, P., Hosea, L., Henson, M., Dubina, N., Kruegar, G., Staff, J., & Gilbert, W. (2018). Building high performance coach-athlete relationships: The USOC's National Teach Coach Leadership Education Program (NTCLEP). *International Sport Coaching Journal*, 5, 60-70. doi:10.1123/iscj.2017-0102

Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education & Sport Pedagogy*, 10, 19-40. doi:10.1080/1740898042000334890

- 602 Gianotti, S., Hume, P. A., & Tunstall, H. (2010). Efficacy of injury prevention related coach
603 education within netball and soccer. *Journal of Science & Medicine in Sport*, 13, 32-35.
604 doi:10.1016/j.jsams.2008.07.010
- 605 Gilbert, W., & Trudel, P. (1999). An evaluation strategy for coach education programs.
606 *Journal of Sport Behaviour*, 22, 234-250.
- 607 Glang, A., Koester, M. C., Beaver, S. V., Clay, J. E., & McLaughlin, K. A. (2010). Online
608 training in sports concussion for youth sports coaches. *International Journal of Sports Science &*
609 *Coaching*, 5, 1-12. doi:10.1260/1747-9541.5.1.1
- 610 Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and
611 future directions. *International Review of Sport & Exercise Psychology*, 1, 58-78.
612 doi:10.1080/17509840701834573
- 613 Goslin, A. E., & Davies, K. (2014). Measuring service quality of international tennis coach
614 education courses. *African Journal for Physical, Health Education, Recreation & Dance*, 20, 11-23.
- 615 Griffiths, M. A., Armour, K. M., & Cushion, C. J. (2018). 'Trying to get our message across':
616 Successes and challenges in an evidence-based professional development programme for sport
617 coaches. *Sport, Education & Society*, 23, 283-295. doi:10.1080/13573322.2016.1182014
- 618 Hook, R., & Newland, A. (2018). A basic needs coaching paradigm for coaches of
619 intercollegiate and high school athletes. *Journal of Sport Psychology in Action*, 9, 182-195.
620 doi:10.1080/21520704.2018.1463328
- 621 Hussain, A., Trudel, P., Patrick, T., & Rossi, A. (2012). Reflections on a novel coach
622 education program: A narrative analysis. *International Journal of Sports Science & Coaching*, 7,
623 227-240. doi:10.1260/1747-9541.7.2.227
- 624 ICCE, ASOIF & LBU (2012). *The International Coach Developer Framework*. Leeds: ICCE

- 625 ICCE, ASOIF, & LBU (2013). *The International Sport Coaching Framework v1.2*.
626 Champaign: Human Kinetics.
- 627 Jarvis, P. (2006). *Towards a comprehensive theory of learning*. London: Routledge.
- 628 Kellett, P. (1999). Organisational leadership lessons from professional coaches. *Sport*
629 *Management Review*, 2, 150-171. doi:10.1016/S1441-3523(99)70094-X
- 630 Koh, K. T., Camiré, M., Bloom, G. A., & Wang, C. K. J. (2017). Creation, implementation,
631 and evaluation of a values-based training program for sport coaches and physical education teachers
632 in Singapore. *International Journal of Sports Sciences & Coaching*, 12, 795-806.
633 doi:10.1177/1747954117730987
- 634 Langan, E., Blake, C., & Lonsdale, C. (2013). Systematic review of the effectiveness of
635 interpersonal coach education interventions on athlete outcomes. *Psychology of Sport & Exercise*, 14,
636 37-49. doi:10.1016/j.psychsport.2012.06.007
- 637 Lara-Bercial, S. (2018). *Understanding and improving children and young people's*
638 *developmental outcomes in sport: a psychosocial perspective*. Unpublished doctoral thesis. Leeds:
639 Leeds Beckett University.
- 640 Lara-Bercial, S., & Mallett, C. (2016). The practices and developmental pathways of
641 professional and Olympic serial winning coaches. *International Sport Coaching Journal*, 3, 221-239.
642 doi:10.1123/iscj.2016-0083
- 643 Lara-Bercial, S., North, J., Petrovic, L., Minkhorst, J., Oltmanns, K., & Härmäläinen, K.
644 (2017). *The European Sport Coaching Framework*. Champaign: Human Kinetics.
- 645 Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*.
646 Cambridge: Cambridge University Press.

647 Lisinskiene, A. (2018). The effect of a 6-month coach educational program on strengthening
648 coach-athlete interpersonal relationships in individual youth sport. *Sports*, 6, 74.
649 doi:10.3390/sports6030074

650 MacDonald, D. J., Côté, J., & Deakin, J. (2010). The impact of informal coach training on the
651 personal development of youth sport athletes. *International Journal of Sports Science & Coaching*, 5,
652 363-372. doi:10.1260/1747-9541.5.3.363

653 Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational
654 model. *Journal of Sports Science*, 21, 883-904. doi:10.1080/0264041031000140374

655 Marsick, V., & Watkins, K. (2003). Demonstrating the value of an organization's learning
656 culture: The dimensions of the learning organization questionnaire. *Advances in Developing Human*
657 *Resources*, 5, 132-151. doi:10.1177/1523422303005002002

658 McQuade, S., & Nash, C. (2015). The role of the coach developer in supporting and guiding
659 coach learning. *International Sport Coaching Journal*, 2, 339-346. doi:10.1123/iscj.2015-0059

660 Miller, L. M., & Carpenter, C. L. (2009). Altruistic leadership strategies in coaching: A case
661 study of Jim Tressel of the Ohio State University. *Strategies*, 22, 9-12.
662 doi:10.1080/08924562.2009.10590826

663 Moon, J. (2004). *A handbook of reflective and experiential learning: Theory and practice*.
664 London: Routledge.

665 Morgan, K., Jones, R. L., Gilbourne, D., & Llewellyn, D. (2013). Changing the face of coach
666 education: Using ethno-drama to depict lived realities. *Physical Education & Sport Pedagogy*, 18,
667 520-533. doi:10.1080/17408989.2012.690863

- 668 Nelson, L., Cushion, C., & Potrac, P. (2013). Enhancing the provision of coach education:
669 The recommendations of UK coaching practitioners. *Physical Education & Sport Pedagogy*, 18, 204-
670 218. doi:10.1080/17408989.2011.649725
- 671 North, J. (2009). *The UK Coaching Workforce Report 2009-2016*. Leeds: Sports Coach UK.
- 672 North, J. (2010). Using 'coach developers' to facilitate coach learning and development:
673 Qualitative evidence from the UK. *International Journal of Sports Science & Coaching*, 5, 239-256.
674 doi:10.1260/1747-9541.5.2.239
- 675 Pawson, R. (2013). *The Science of Evaluation*. London: Sage.
- 676 Pawson, R., & Tilly, N. (1997). *Realistic Evaluation*. London: Sage.
- 677 Pierce, S., Kendellen, K., Camiré, M., & Gould, D. (2018). Strategies for coaching for life
678 skills transfer. *Journal of Sport Psychology in Action*, 9, 11-20. doi:10.1080/21520704.2016.1263982
- 679 Santos, F., Camiré, M., MacDonald, D. J., Campos, H., Conceição, M., & Silva, P. (2017).
680 Youth sport coaches' perspective on positive youth development and its worth in mainstream coach
681 education courses. *International Sport Coaching Journal*, 4, 38-46. doi:10.1123/iscj.2016-0092
- 682 Smith, B., & McGannon, K. (2018). Developing rigor in qualitative research: Problems and
683 opportunities within sport and exercise psychology. *International Review of Sport & Exercise*
684 *Psychology*, 11, 101-121. doi:10.1080/1750984X.2017.1317357
- 685 Smith, R. E., & Smoll, F. L. (2002). *Way to go, coach!: A scientifically-proven approach to*
686 *youth sports coaching effectiveness*. Portola Valley: Warde Publishers.
- 687 Smith, R. E., Smoll, F. L., & Curtis, B. (1979). Coach effectiveness training: A cognitive-
688 behavioral approach to enhancing relationship skills in youth sport coaches. *Journal of Sport*
689 *Psychology*, 1, 59-75. doi:10.1123/jsp.1.1.59

- 690 Sparkes, A., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health:*
691 *From process to product*. Cambridge: Routledge.
- 692 Stirling, A. E., Kerr, G. A., & Cruz, L.C. (2012). An evaluation of Canada's national
693 coaching certification program's Make Ethical Decisions coach education module. *International*
694 *Journal of Coaching Science*, 6, 45-60.
- 695 Stodter, A. & Cushion, C.J. (2016). Effective coach learning and processes of coaches'
696 knowledge development: What works? In P.A. Davis (Ed.) *The Psychology of Effective Coaching &*
697 *Management*. New York: Nova Science Publishers, 35-52.
- 698 Stoszkowski, J., & Collins, D. (2018). The agony and the ecstasy: Student-coaches'
699 perceptions of a heutagogical approach to coach development. *International Sport Coaching Journal*,
700 5, 136-144. doi:10.1123/iscj.2017-0077
- 701 Strachan, L., MacDonald, D. J., & Côté, J. (2016). Project SCORE! Coaches' perceptions of
702 an online tool to promote positive youth development in sport. *International Journal of Sports*
703 *Science & Coaching*, 11, 108-115. doi: 10.1177/1747954115624827
- 704 Trudel, P., Gilbert, W., & Werthner, P. (2010). Coaching education effectiveness. In J. Lyle
705 & C. Cushion (Eds.), *Sports coaching: Professionalisation and practice* (pp. 135-152). London:
706 Elsevier.
- 707 Van Hoya, A., Larsen, T., Sovik, M., Wold, B., Heuzé, J. P., Samdal, O., ... & Sarrazin, P.
708 (2015). Evaluation of the Coaches Educators training implementation of the PAPA project: A
709 comparison between Norway and France. *Scandinavian Journal of Medicine & Science in Sports*, 25,
710 539-546. doi:10.1111/sms.12352

- 711 Vallée, C. N., & Bloom, G. A. (2005). Building a successful program: Perspectives of expert
 712 Canadian female coaches of team sports. *Journal of Applied Sport Psychology*, 17, 179-196.
 713 doi:10.1080/10413200591010021
- 714 Valleé, C. N., & Bloom, G. A. (2016). Four keys to building a championship culture.
 715 *International Sport Coaching Journal*, 3, 170-177. doi:10.1123/iscj.2016-0010
- 716 Vella, S. A., Crowe, T. P., & Oades, L. G. (2013). Increasing the effectiveness of formal
 717 coach education: Evidence of a parallel process. *International Journal of Sports Science & Coaching*,
 718 8, 417-430. doi:10.1260/1747-9541.8.2.417

719 **Table 1**720 *Papers evaluating coach education and development interventions between 2008-2019*

Authors	Context	Participants involved in the evaluation process	Aim of research
Small Scale Programmes (i.e., short duration and focused on a single topic; for instance a workshop)			
Belski et al. (2018)	Junior Australian football	78 coaches	Evaluation of the impact of a brief (20-min) nutrition education intervention embedded in an existing mandatory coach education course.
Bowley, Cropley, Neil, Hanton, & Mitchell (2018)	Grassroots soccer	22 Level 1 and 23 Level 2 coaches	Evaluation of a coach education programme aimed at enhancing coaches' competence and confidence to integrate life skills development as a formal part of their coaching practice.
Camiré, Kendellen, Rathwell, & Charbonneau (2018)	High school sports, including basketball, volleyball, and football	10 coaches	Evaluation of coaches' experience of the pilot implementation of the Coaching for Life Skills program.
Driska & Gould (2014)	University programme	22 masters and doctoral students	Evaluation of an online course combining the principles of a community of practice with problem-based learning to enhance coaches' reflective practice skills.
Falcão, Bloom, & Bennie (2017)	Youth sport basketball	12 coaches	Evaluation of coaches' perceptions of a humanistic coaching workshop and their experiences of using the approach.
Falcão, Bloom, & Gilbert (2012)	Youth soccer and basketball from recreational and competitive leagues	6 youth sport coaches	Evaluation of coaches' perceptions on the impact of a coach training programme designed to promote youth developmental outcomes.
Ferrar et al., (2018)	USA Archery and USA Cycling	2 coaches	Evaluation of a coach-athlete relationship coach education seminar that was part of the United States Olympic Committee's National Team Coach Leadership Education Program.

Gianotti, Hume, & Tunstall (2010)	Community netball and soccer	271 netball and 71 soccer coaches	Evaluation of the efficacy of integrating sports injury prevention knowledge into coach education programmes.
Glang, Koester, Beaver, Clay, & McLaughlin (2010)	Youth sport	75 youth community coaches	Evaluation of an online concussion training programme designed to train community coaches of youth athletes in effective sports concussion prevention and management practices.
Koh, Camiré, Bloom, & Wang (2017)	Youth sport and physical education at primary and secondary schools	4 coaches 4 physical education teachers	Evaluation of a values-based training programme aimed at enhancing coaches' and teachers' ability to teach values to athletes and students.
MacDonald, Cote, & Deakin (2010)	Youth sport, including basketball, dance, hockey, ringette, soccer, softball, and volleyball.	10 programme administrators from youth sport programmes and 109 male and female athletes	Evaluation of the impact of an informal coach training programme on the personal development of youth sport participants.
Morgan, Jones, Gilbourne, & Llewellyn (2013)	University programme	15 masters students	Evaluation of a pilot intervention using ethno-drama as a tool to enhance problem-based learning.
Santos et al., (2017)	Youth Sports	7 coaches	Process and outcome evaluation of a positive youth development-focused online coach education course.
Stirling, Kerr, & Cruz (2012)	Multiple sports and contexts	Phase 1 – 30 coaches Phase 2 – 3742 coaches	Evaluation of Canada's National Coaching Certification Program's "Make Ethical Decisions" coach education module.
Stoszkowski & Collins (2018)	University programme	26 student-coaches	Evaluation of student-coaches' experiences of a sports coaching bachelor degree module that was underpinned by a heutagogical learning approach.
Strachan, MacDonald, & Côté (2016)	Youth sport, including soccer, volleyball, and hockey.	4 youth sport coaches	Evaluation of coaches' perceptions of Project SCORE!, an online tool to promote positive youth development in sport.

Van Hoya et al. (2015)	Grassroots soccer	18 coach developers	Cross-culturally comparison of the implementation process of the Empowering Coaching™ training programme that aims to enhance children's health.
Vella, Crowe, & Oades (2013)	Community soccer	9 coaches	Evaluation of a formal transformational leadership training programme for coaches.

Large Scale Programmes (i.e., long duration and multiple topics; for instance an National Governing Body qualification)

Deek, Werthner, Paquette, & Culver (2013)	Flat water kayak, field hockey, ringette, sailing, and soccer	10 coaches	Evaluation of the impact of a coach education programme on coach learning and perceived changes to coaching practices, while situating this episodic learning experience within a lifelong learning perspective.
Driska (2018)	Swimming	21 coaches	A formative, utilization-focused evaluation of USA Swimming's nationwide online coach education programme.
Goslin & Davies (2014)	Tennis	56 coaches	Evaluation of the perceived service quality of the International Tennis Federation Starter-Beginner coach education courses.
Griffiths, Armour, & Cushion (2018)	Youth sport	7 senior managers, 8 coach educators, 8 Academy club directors, and 12 sports club coaches	Evaluation of a coach education programme provided by a major national governing body of sport in the UK.
Hussain, Trudel, Patrick, & Rossi (2012)	Development/Elite Triathlon	1 high performance director/programme designer	Evaluation of the implementation of a novel coach education programme in the competition-development context, developed by Triathlon Canada's former high performance director.
Lisinskiene (2018)	Youth martial arts	10 coaches	Evaluation of an educational programme for coaches aimed at strengthening coach-athlete interpersonal relationships.
Nelson, Cushion, & Potrac (2013)	Mix of contexts and sports	90 coaches	Overall evaluation of the coach education system in the UK.

722 **Table 2**723 *Coach Advancement Programme (CAP) schedule and content*

CAP Phase	Content
CAP Introductory Course	Six-day residential including: <ul style="list-style-type: none"> • Seven hours a day of CD-led delivery of curricular subjects, including for instance planning, pedagogy, sport psychology, and strength and conditioning. • Personal reflection tasks that provided coaches with a chance to assimilate and accommodate the content of the course and identify how it could be embedded into their respective contexts • Evening group activities to foster team cohesion • Development of a personal action plan to provide coaches with a developmental focus for the on-the-job practicum • Setting of tasks to be complete during the on-the-job practicum
CAP On-the-job Practicum	Completion of set tasks throughout a full season (i.e., 10 months), including: <ul style="list-style-type: none"> • Collaborative tasks as a school: <ul style="list-style-type: none"> ▪ Development of a School Talent Identification and Development Plan ▪ Completion of a Player Injury Profile and Database • Collaborative tasks as a family of sports: <ul style="list-style-type: none"> ▪ Creation of a Sport Specific Curriculum ▪ Development of a brief paper stating the specific strength and conditioning needs of coaches' respective sports • Individual tasks as a coach: <ul style="list-style-type: none"> ▪ Follow up on personal action plan ▪ Creation of a season plan ▪ Keeping of a record of all session plans ▪ Keeping of a personal reflective journal • Further development opportunities: <ul style="list-style-type: none"> ▪ Online webinars with CDs ▪ CD site visits ▪ Monthly coaches' meetings ▪ Regular 'Buddy' Coach Discussion ▪ Facebook group which functioned as a forum for discussions
CAP Consolidation Course	Five-day residential including: <ul style="list-style-type: none"> • 'Live' coaching session with student-athletes demonstrations by CDs and coaches leading to group discussions and reflections • Review of key content from the CAP Introductory Course and 'open consultation surgeries' with CDs • Presentation of school Talent Identification and Development Plans • Peer to peer presentation of pre-set tasks from CAP Introductory Course, including Full Sport Curricula and Annual Plan • Delivery of sport psychology modules